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SERVICE

NEWS

ISSUED FOR THE STAFF OF THE SOIL CONSERVATION
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January 29, 1941

No. 8



The Lend-Lease Bill for aid to Britain has held the spotlight on Capitol Hill since the 77th Congress convened this month. And rightly so. No matter of such vital interest to all of us has been before Congress for a long time. Incidentally, it has been pointed out that there is an interesting coincidence in the designation of the Bill as H. R. 1776.

But aid to Britain isn't the only subject on the collective mind of Congress, if the bills dropped into the hopper since the opening session are any criterion. Our national legislators have found time to write a flock of bills on dozens of subjects -- some of which will affect SCS directly or indirectly. As the legislative mill grinds on in the next several months, it will be interesting to inspect the agricultural grist from time to time.

Two bills on conservation were introduced the first day Congress was in session. Mr. Voorhis of California is author of H. R. 157, to provide for employment of rural unemployed upon projects for conservation of soil, water, and forest resources. Mr. Colmer of Mississippi introduced H. R. 539, to revise the method of determining payments to be made by the

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DISTRICT SUPERVISORS BUY LAND FOR SEED PROTECTION

The Board of Supervisors of the Fort Berthold Soil Conservation District in Montrail County, North Dakota, is really serious about this matter of encouraging grass seed production and better forage. It has gone into the landowning business, purchasing 160 acres of farm land on which

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WALLACE REPORTS TO THE PRESIDENT

"We have wasted our precious soil faster than any other nation or race that ever engaged in agriculture on an extensive scale," says Henry A. Wallace in his report to the President of the activities within the Department of Agriculture during the 12 months preceding his resignation as Secretary on September 5, 1940. He shows the silver lining to this dark picture, however, in his story of the progress made in conserving soil. Mr. Wallace concludes that this country has made more progress toward conservation and better land use during the past 10 years than throughout its entire previous history. "In fact," he says, "the 1930's may well go down in American history as the decade of conservation." And -- well, I think you might be interested in reading all of that portion of the Secretary's report which relates to the conservation program. You will find it reprinted and attached as a supplement to this issue of SERVICE NEWS. - ED.

U. S. Dept. of Agrl.
Library
South Building

WASHINGTON CORRESPONDENT

(Continued from page 1)

U. S. to the States with respect to conservation lands under the USDA. Both of these bills have been referred to the Agriculture Committee.

Not that it matters vitally to us, but the problem of when we shall celebrate Thanksgiving Day has worried our Congressmen so profoundly that to date six bills have been introduced on the subject. It is very likely that F.D.R. will not get a chance to proclaim Thanksgiving next November; the day will be established by Act of Congress if the men on the Hill can get a majority vote on either the third or last Thursday in November. Maybe they will compromise on the bill offered by New York's Mr. Schwert to designate the first Monday after the fourth Sunday in November as Thanksgiving.

Civil Service tops the list for more bills introduced than on any other subject. Forestry and flood control come in for their share of attention, too. SERVICE NEWS will give a digest of some of these and other pertinent bills in a future issue.

EMPLOYEE FATALITIES REDUCED

A 63 percent reduction of fatalities among Service employees within the past five years is the fine record reported at the end of the calendar year, 1940, by H. C. Mesch, Head of the Safety and Health Section. Only 8 fatal accidents occurred during 1940, and all except one were caused by motor vehicles.

Records of fatalities for previous years are: 22 in 1936, 16 in 1937, 10 in 1938, and 14 in 1939.

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"Soil Saving Resurrects a Community" by Charles G. Webb appears in the February *Progressive Farmer*.

LAND PURCHASE FOR DEFENSE CONTINUING AT HIGH SPEED

Here's a story about a part of the defense program that really has the green light nowadays. The Land Acquisition Division is making new speed records for Government appraisal and purchase in buying up lands needed by the War Department in the defense program. The Division is now appraising 13,253 acres at the Leon Springs Military Reservation near San Antonio, Texas; 26,500 acres at Fort McClellan, Anniston, Alabama; 25,000 acres at Camp Jackson, Columbia, South Carolina; and 2,000 acres at Spartanburg, South Carolina, for a new infantry replacement center. In addition, work is progressing on the purchase of 21,000 acres in Gibson and Carroll Counties, Tennessee, for an ordnance loading plant; 28,200 acres in Talladega County, Alabama, for two munition plants; 3,400 acres in Clark County, Indiana, adjacent to the DuPont Smokeless powder plant for a munition storage area; and 6,000 acres in Pulaski County, Virginia, for an ammunition bagging plant.

CARTOGRAPHERS PREPARING MAPS FOR DEFENSE PROGRAM

Cartographic Division out at Beltsville is busy these days with extra work for the defense program. At the present time the mapmakers are putting the finishing touches on a topographic map for the Cleveland Aeronautical Research Center which will be used by the Civil Aeronautics Authority. The Division has also detailed three men and equipment to prepare a cadastral survey and property map of lands being purchased near Radford, Va., for a new powder plant. Work on this survey and map should be completed by the middle of February.

Nearly all of the regional offices of the Cartographic Division have reported that they are either doing reproduction work or supplying aerial photographs for the War Department. In Region 2 the division is reproducing blueprints for Camp Croft at Spartanburg.

SUPREME COURT DECISION IMPORTANT TO CONSERVATION

From the United States Supreme Court, last month, came a decision of great importance to the conservation movement.

Deciding the so-called "New River Power" case, after some 15 years of litigation, the court declared that Federal authority over a navigable stream extends not only to navigation, but to other matters affecting commerce, including watershed development and flood protection.

"In our view", said the majority opinion, "it cannot properly be said that the constitutional power of the United States over its waters is limited to control for navigation. By navigation respondent means no more than operation of boats and improvement of the waterway itself. In truth the authority of the United States is the regulation of commerce on its waters. Navigability, in the sense just stated, is but a part of this whole. Flood protection, watershed development, recovery of the cost of improvements through utilization of power are likewise parts of commerce control."

The decision also stated a broader definition of "navigable stream" than has heretofore been held, extending the term to include virtually any stream which could be made navigable, even over part of its length, with reasonable expenditures for improvement. Two justices dissented and one, the Chief Justice, did not sit.

The case is also of some historical importance from the conservation standpoint, in that it upholds the Federal Power Act, one of the earlier and more important Federal conservation laws. Among other things the Power Act of 1920 provides for licensing the construction of dams on navigable streams to adapt each project to a comprehensive plan for improving the waterway

INDIAN TALK ON EROSION WINS PRIZE FOR OKLAHOMAN

A gullied field and a deserted house go together, according to editor Clarence Roberts of the *Oklahoma Farmer-Stockman*. Recently he published two pictures, one of a delapidated house and the other of an eroded field; then he asked his readers to participate in a "You Write the Story" contest.

Out of 2,605 entries, the judges selected as top prize-winner a letter submitted by O. E. Enfield of Arnett, Oklahoma. Here it is:

"Maybe the Indian Was Right, After All"

"Both pictures show white man crazy. Make big tepee. Plow hill. Water wash; wind blow soil. Grass gone, land gone, door gone, window gone; whole place gone to hell. Buck gone. Squaw too. Papoose gone. No chuckaway, no pig, no corn, no cow, no hay, no pony.

"Indian no plow land. Keep grass. Buffalo eat. Indian eat buffalo. Hide make tepee, make moccasin. Indian no make terrace, no build dam, no give damn. All time eat. No hunt job, no hitch-hike, no ask relief. No shoot pig. Great Spirit make grass. Indian no waste anything. Indian no work. White man heap loco."

The Fort Worth Office has secured permission from Mr. Roberts to use the pictures and the prize winning article in educational work in districts.

for all beneficial uses, including recreation. The license provisions also provide that the projects shall be assessed for benefits from headwater improvements and that the United States can take back licensed projects at the end of the license period.

THE BALANCE SHEET

There's an editor out in New England, North Dakota, who has been following the Service's progress in the western part of his State, and he's mighty pleased with what has been accomplished. He is anxious to see the program grow. Here's what he has to say in his Hettinger County Herald:

A Good Program

If the present administration had attempted to do nothing else but aid the Soil Conservation Service in carrying out its program, that alone would have been nearly enough in the way of aid to agriculture.

This soil service is not a subsidy. It is exactly that which the term implies -- a service to agriculture by helping disseminate methods for conservation of the essential elements in the soil necessary for successfully farming. The program is not a spoon-fed process to be administered as a bitter, yet necessary medicine might be. It is optional with every farmer -- not a planned economy with drastic penalties for non-cooperators.

Slope-Hettinger Soil Conservation District, with headquarters at New England, is the oldest and probably the most successfully operating unit in the state. Any plan which is of benefit to a community is not enough, however. Its administration must be conscientiously competent. A study of the local program brings out the district's good fortune in possessing the two-fold essentials.

Inevitably, the service has become increasingly in demand by more and more farmers since its inception with the result that a need has arisen for increased miscellaneous operating funds.

The federal government provides an office and salaries for the technical advisors in each district. This part is

provided without a hitch. Yet there still remain many items of expense which must be taken care of in administration of the program.

Non-salaried committeemen and other local coordinators with the soil service perform their duties at a loss to themselves for the benefit of the district.

A state appropriation of \$2,000 is the meagre figure which must take care of all districts in the state.

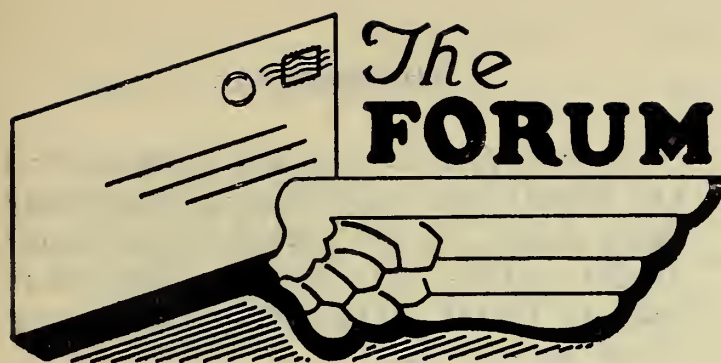
This amount is not enough.

Soon the legislature will convene. When it does there will be an attempt to increase the appropriation. We hope it meets with favorable results.

The Soil Conservation Service has proven its value in North Dakota. It has not been crammed down farmers' throats, nor has it operated with fanfare and flourish. Nevertheless the service has been increasing in value to agriculture in the state. It has come along slowly and surely. The time now approaches when it must receive further endorsement.

TESTS WITH BUFFALO GRASS SEED

Country Gentleman, January, says that, in the spring of 1940, Leon Wenger, of the Kansas Experiment Station, started some tests with Buffalo grass seed that was harvested in 1938. He soaked the seed in water for varying periods of time, dried it and then planted. Seed that was soaked for one day had two times the germination of non-soaked seed, whereas seed that was soaked for two days had about three times as high a germination as non-soaked seed. Other tests, in which the seed was treated with a solution of potassium nitrate, showed that soaking the seed in this solution for three days brought the germination up to 81 percent.



AUSTIN IMIRIE DETAILED TO SELECTIVE SERVICE

Austin S. Imirie, for the past several years Assistant Head of CCC Operations, was detailed January 21 to Selective Service to establish work camps for conscientious objectors. As reforestation and soil conservation have been named as two types of work the conscientious objector selectees would perform, it is expected that Mr. Imirie will continue to be in close touch with the Soil Conservation Service.

"Dutch", as he is more familiarly known, was the eldest in service of the present personnel in Washington CCC Operations. He joined the SCS family in April 1934 with his first assignment as administrative assistant in charge of the procurement of CCC equipment.

SUPERVISORS BUY LAND (Continued from page 1)

to produce crested wheat grass seed that will be made available to farmers within the district.

According to Regional Conservator McClymonds, this is the first reported purchase of land by a district in the Northern Great Plains -- in fact, lacking reports of similar action in any other region, he is ready to set up a figurative flag and declare it the first land purchase by a district in all the United States. The land was acquired through the purchase of a tax deed from the Mountrail County Board of County Commissioners. The title to the land will be quieted without cost to the District by the States Attorney of the county.

F. J. Hopkins was stepping along the halls the other morning, headed for the Chief's office, and swinging an Army Colt automatic in its holster. Speculations are rife as to what his target will be. One guess is the Budget Bureau.

EDITOR, SERVICE NEWS: In these days of incredible hubbub, with long documents, and reports, and memoranda arriving right and left; with the newspapers filled with ominous headlines; with the radio loaded with war bulletins; with our desks piled high and higher with work; and with miscellaneous difficulties and problems snapping at us from many sides; there's little wonder many of us wear long faces. But it's our job to work with the public and with each other. No one of us can carry the world, or the Service, on one pair of shoulders. There are a lot of able men and women working with us every day and all of us, I believe, will do a better job, and a bigger one, if we can manage to smile once in a while. Working constantly with a group of pall-bearers is depressing, to say the least.

I'm not suggesting that we go around with a collective fixed grin, or be 20th century Pagliaccis, but it's surprising how much easier it is to do a day's work - faster and better - if you can muster a smile now and then, and realize that maybe you're only human and not quite so indispensable after all.

I never saw a farmer or anyone else who wanted to work with an Omnipotent Being with a frozen frown.

J.F.

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The Lincoln regional office reports that it has concluded a very successful Community Chest campaign with 97 percent of the employees subscribing 113 percent of the quota. Seventy-four percent of the pledges were given in cash.

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S. O. S.

Editor Brink has issued an S.O.S. for copies of December 1940 and January 1941 issues of SOIL CONSERVATION. He needs the extra magazines for binding, so when you have finished reading your copies, please send the specified issues back to Washington. If you are saving the December issue because of the excellent discussion on "Fluctuating Forage Production" by J. L. Lantow and E. L. Flory, you will be glad to know that their article is being reprinted and you may secure a copy upon request.

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Mrs. Helen West, supervisor of the stenographic pool, has moved from Room 330, Standard Oil Building, and has established headquarters for the pool in Room 4960, South Building. This move will in no way curtail services rendered by the pool to the various divisions in the Standard Oil and Printcraft Buildings. Mrs. West may be reached on extension 2194.

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At the Army's request, SCS is vacating a large warehouse covering 80,000 square feet at Lacarne, Ohio, which the Service has been utilizing with the Army's permission. The Lacarne warehouse is one of five buildings which have been used by bureaus of the Agriculture Department, but are being returned to the Army for use in the defense program.

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Dr. Philip H. Groggins, BACE, has been loaned to the Agricultural Division of the Defense Commission to have charge of a new agricultural chemicals division, which will concern itself with the production of all chemicals which can be used for agriculture, as well as the use of agricultural products either directly or indirectly in defense activities.

PRINTERS' INK

David S. Jenkins, Hydraulic Engineer at the Blacklands Experimental Watershed, Waco, Texas, is the author of an illustrated article "Silt Samplers Compared in Special Tests" published in the January *Civil Engineering*.

An illustrated article entitled "Hydraulic Tests of Kudzu as a Conservation Channel Lining" by W. O. Ree, Project Supervisor of the Spartanburg Outdoor Hydraulic Laboratory, S.C., appears in January *Agricultural Engineering*.

Henry Hopp has written about "Growth-Form Variation in Black Locust and Its Importance in Farm Planning" for the January *Journal of Forestry*.

Mildred Benton, SCS librarian, has an interesting article on "Libraries and Soil Conservation" in the January *Wilson Library Bulletin*.

The November-December issue of *Conservation* carried a liberal digest of Frank Harper's story on the Clackamas Farm Forestry Project, which appeared originally in the October *Timberman*.

"Poisonous Range Plants on New Mexico Grazing Lands: Their Relation to Range Use" by Leslie N. Goding appears in the December issue of *The New Mexico Stockman*.

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FIELD MEMORANDA

- 972-A Amendment to Field Memorandum SCS #972 relative to the Penalty Privilege. (Farm Foresters may use penalty privilege for official mail.)
- 978 Policies and procedures regarding the construction or placing of improvements on Title III lands by permittees.

PROGRESS IN CONSERVING THE SOIL

(Reprinted from the 1940 Report of the Secretary of Agriculture to the President.)

It is essential in planning the national defense to conserve the country's soil and water resources. The productive soils of the country are the backbone of the Nation's agriculture. How these soils are used and how they are conserved will largely determine the efficiency and permanence of agricultural production. This Nation, without regard to the war, must maintain permanently an adequate area of productive land. The American standard of living depends on it. Failure to maintain the soil will be a direct peril to our civilization; for our capacity to produce essential foods and fibers is the mainstay of our national independence.

Lacking an adequate farm plant to produce these vital foods and fibers, it would be necessary to have access through trade to adequate sources of these materials. Events of the last year have accentuated the desirability, and even the necessity, of building and maintaining the agricultural plant at home, so that reliance on outside sources for essential materials will be held to a minimum. Conservation of soil and water and wise land use are prerequisites. Beyond the question of national preparedness and beyond the question of safeguarding our soil and water resources as the basis for a permanently productive agriculture, is another factor--that of practical humanitarianism. In a war-torn world, there is an ever-present menace of famine and pestilence. Hunger and the need of clothing and shelter cannot be ignored. Whether we need our soil resources for our own purposes alone, whether we need them to help other nations, or whether we think only of the future welfare of the country, soil and water conservation are necessary.

Erosion is a serious problem in every State and nearly every important farming section. It has scoured about 100 million acres of once-productive cropland to the point of near or complete denudation, severely impoverished an additional 180 million acres mostly grazing land, and is actively under way also on some 700 million acres of various important types of land. Altogether, more than a billion acres--more than half the area of continental United States--have been affected in some degree by erosion. Much of the land in this country has been under the plow for only a few generations, and most of this widespread erosion has taken place within the last 100 years. We have wasted our precious soil faster than any other nation or race that ever engaged in agriculture on an extensive scale.

Our Land Resources Diminishing

Not so long ago most people thought our good land was inexhaustible. It is not only limited in extent but is diminishing day by day. No longer is it possible to find unoccupied good land in the United States except in isolated tracts and limited areas the use of which generally requires expensive irrigation or drainage. A considerable acreage is still left in central and western Canada; but nothing like the vast acreage of unoccupied good land that greeted the settler a few centuries ago exists now anywhere in North America.

In fact the United States no longer has any too much good land left. Out of the present cropland area of about 415 million acres, only about 342 million acres can be classed as really good land. The rest is too steep, too worn by erosion, or otherwise too unfavorable for profitable cultivation, and should be devoted to grass, trees, or other forms of protective vegetation. Furthermore, the major portion of this good cropland is losing soil with every hard rain. Actually only about 62 million acres now in crops are both good and non-erodible. Possibly an additional 70 million acres of good nonerodible land could be developed by reasonably feasible irrigation, drainage, and clearing operations. This makes about 130 million acres of good, erosion-free land available for crops--about 1 acre for each man, woman, and child. This is not nearly enough for adequate support of the population of the country at present living standards. Unless erosion can be checked on the erodible land, the United States may eventually face an actual land shortage. With the population still increasing and with floods and silting growing worse, we must fight to conserve as much as possible of the medium-quality cropland as well as large areas of grazing and forest land.

Enormous quantities of plant nutrients--nitrogen, phosphorus, potash, lime, and other elements that might have produced bread, meat, milk, garments, and shelter--flow down the streams every year as so much permanent waste. Erosion not only removes plant nutrients; it carries away at one stroke the available plant food, the organic and inorganic materials from which plant food is made, the microorganisms that aid in the manufacture of available nutrients, the mineral matter that holds these organic and inorganic materials--the whole body of the soil. These are not the only losses. Erosion also damages highways, reservoirs, drainage and irrigation ditches, railroads, and other valuable public and private investments that lie in the path of the soil-laden waters. The direct and indirect cost of soil erosion has been estimated by the Soil Conservation Service at 844 million dollars annually, not including damage to the fish and oyster resources of the country or the removal of unavailable plant food constituents in eroded topsoil.

Soil Washed is Lost

Once the soil has descended into the bottoms of stream channels and the wastes of the oceans, it is permanently lost. Soil builds back from subsoil so slowly that in the practical sense it may as well be admitted that generally when it is washed out of fields and pastures it is gone for all time. On any given farm, the effects of erosion are sometimes slow in appearing. But sooner or later, crop yields begin to decline as the more productive top layer of soil is gradually removed. At the same time, plowing frequently becomes more difficult, owing to the formation of gullies or the exposure of obstinate clay subsoil. The land requires more fertilizer and more rainfall in order to produce rewardingly. In short, as erosion advances, the whole task of farming becomes at once more difficult, more costly, and less profitable.

In terms of the individual farmer alone, this situation is bad enough. But when it is multiplied many thousand times across the vast extent of the farming areas, the problem adversely affects the entire structure of the social and economic life of the Nation. Every year erosion in the United States is ruining some 500,000 acres of land and adding to the army of migrants. The only alternative to a declining standard of living, inadequate nutrition, and displaced farmers is better protection and better treatment for the soil.

For about 6 years now, the Soil Conservation Service has been helping farmers through demonstrations in representative areas to conserve soil and water resources. Erosion can be controlled adequately only if every acre of every farm or ranch is treated according to its individual needs and adaptabilities. Experience has shown that on most land the use of a single practice--such as terracing, strip cropping, or crop rotation--is not sufficient. In fact the treatment of certain fields and the neglect of others, particularly sloping fields, is frequently little better than no treatment at all. The plan adopted in S. C. S. demonstration areas has been a careful blend of several adaptable measures and practices, each intended to supplement the others. What is done in one field, pasture, wood lot, and gully, or even on a whole farm, protects not only that particular piece of land, or farm, but helps to safeguard an adjoining field, wood lot, or farm, or even valley land far downstream.

Conservation Pattern of Land Use

Broadly, the land use pattern is designed to combine soil protection with economical operation of the farm. Usually in the demonstration program cultivation is confined, insofar as such action is economically feasible, to the more nearly level parts of the farm. The steeper areas, the critically eroded places, the gullies, and other erosion sore-spots, are turned to permanent pasture, meadow, or forest. Sometimes level land not subject to erosion, such as stream bottom, is brought into cultivation on a productivity-exchange basis to replace steep eroding upland which must be blanketed by a permanent cover of vegetation for safe protection. The cooperating farmer has an arrangement of cultivated fields, pastures, meadows, woods, controlled gullies, and water-disposal channels that fits the actual lay of the land, the character of the soil, the climate, and also as nearly as possible, his economic needs.

Once the farmer has established a sound basic pattern of land use, he applies specific treatments to every acre. Croplands, for example, are nearly always farmed in rotation, usually on the contour, and often in strips of cultivated crops between strips of dense cover, as grass or clover. Terraces frequently are built to provide further protection. Pastures are limed, fertilized, and contour-furrowed to improve the growth of grass. Gullies are planted to permanent cover or stabilized with small soil-holding dams. Woodlands are protected from fire and, when necessary, from grazing, and merchantable trees are harvested so as to insure a constantly vigorous stand of timber. Conservation work on range land takes a somewhat different form. Where the original grass cover has been excessively thinned by overgrazing, flocks and herds are cut down. Structures are built to store rainfall, and water is collected and distributed to restore or improve the grass.

Results show that here is a practical solution, or at least a partial solution, for every type and variety of farm erosion. The only real question is whether the appropriate measures can be applied to the land before it is too late. The achievements in the Elm Creek demonstration area near Temple, Tex., illustrate what has been done. In this drainage basin of 206,000 acres, more than 600 farmers cooperate with the S. C. S. in a program of erosion control and water conservation. The work that has been carried out in one section of this large project is of outstanding interest. This is the section within the watershed of Wilson Hollow, a tributary of North Elm Creek.

Here soil conservation plans were made and carried out without regard for farm boundaries. The prime consideration was to protect the land as a whole, with controls laid out along natural rather than artificial lines. Farmers of this particular drainage area have worked during the past 6 years in cooperation with conservation technicians, and in close cooperation with one another, to establish measures for erosion control and water conservation. These measures are effectively holding soil and water on 174 adjoining farms that cover 34,000 acres in a solid block. From a high point in the watershed the view reveals readjusted and protected fields in an unbroken pattern as far as the eye can see. In many places terraces cross the boundaries of two or more farms. Strips of cotton wind along the contour across the slopes. In between are erosion-control strips of small grain, sorghum, Hubam clover, and bluestem grass. All fields, pastures, gullies, and even roadside ditches have been stabilized.

One significant feature of the job is the comparatively low cost. By building terraces across farm boundaries, the farmers have been able to eliminate many of the terrace outlets that would have been necessary if each farm had been treated separately. Where terraces meet along farm boundaries, joint outlets have been built. Each farmer has contributed part of the land needed and agreed to share the costs of construction and upkeep. Altogether exactly 100 farms in this solid block of conservation-treated farms are involved in 42 cooperative terrace-outlet systems. Most of these drain the water from 2 adjacent farms. But 8 of them serve 3 farms each; 1 handles the water from 5 farms; and 1 especially big channel takes care of the run-off from 6 separate holdings. These joint installations are typical of a spirit of mutual helpfulness that has been developed in Wilson Hollow watershed.

Wholesale Land Retirement Unnecessary

It is important to remember that soil conservation does not mean wholesale retirement of land from cultivation. It means retirement only of the least productive areas, particularly of steep hillsides and badly eroded land, that are unfit for profitable tillage or unsafe for cultivation at all. As a rule, the retirement of such land does not greatly reduce the individual farmer's production. For example, under the program of completely coordinated land treatment just described, there has been a 14-percent reduction in the cultivated acreage of the farms treated. Yet by saving soil and water, by developing pastures, by improving idle lands, and in some instances by shifting production from poor upland to rich bottom land, the majority of the cooperating farmers have been able to maintain, and in many cases to increase, their total income from the land.

In the Duck Creek project, near Lindale, Tex., the S. C. S. has been keeping farm-income records since the beginning of the work. In 1935, 60 essentially similar farms in the project area were selected for purposes of the study. The operators of 40 of these farms adopted complete programs of erosion control and water conservation. They made the necessary adjustments in land use, plowed on the contour, terraced, and strip cropped their fields, and adopted soil-building crop rotations. Meanwhile the other 20 men went on farming in the customary way.

The first year, labor earnings on the conservation farms were about 20 percent greater than on the farms that failed to adopt conservation farming methods. In 1937 the conservation operators came out nearly 57 percent better on the year's work than their neighbors; in 1938, the difference was 100 percent; and in 1939, the value of the conservation work was even greater. In other words, the establishment of conservation practices produced a certain financial advantage increased steadily.

During the past 5 or 6 years, methods of conservation and good land use have been adopted on farms comprising more than 20 million acres. Today most of these farms are in far better condition than they were a little while ago. The productive value of the land has increased, the loan value has increased, and the farmers are operating on a more profitable and more stable basis.

Greatest Human Security

Over and above the increased land values, where soil and water are effectively conserved there is greater human security. Farmers have more purchasing power, more self-reliance, a better balanced type of agriculture, and more opportunity. Conservation farming, by its very nature, involves a diversity of crops and a variety of enterprise. It stands in sharp contrast to the single-crop type of agriculture which lies behind so many of the country's present-day farming problems--behind the huge, price-depressing surpluses, the poor farm dwellings, the many ill-fed and ill-clad people. The use of land according to its adaptabilities, with effective treatment for soil erosion control and water conservation, would go a long way toward solving our economic and social problems.

This country has made more progress toward conservation and better land use during the past 10 years than throughout its entire previous history. In fact the 1930's may well go down in American history as the decade of conservation. It was during this period that we first started to study and attack the erosion problem on a Nation-wide scale. During the 1930's people in all parts of the country and all walks of life began to think about the indispensability of productive soil and the necessity for its preservation. Farmers cooperated with Federal and State agencies to make conservation a reality. Toward the end of the decade, the whole movement received tremendous impetus from the passage of soil conservation districts laws in three-fourths of the states.

Nevertheless, the work of soil conservation is not yet moving fast enough. Land is still wearing out faster than we have been able to defend it. The combined efforts of the various State and Federal agencies, however, are beginning to close up the gap; we are definitely nearer now to the point of balancing the account between land decline and land stabilization, though the main task is still ahead. Erosion has spread over an area so wide, and has picked up so much momentum through decades of land neglect and abuse that controlling it on anything like a national scale will be slow and difficult. Our land-defense efforts need to be accelerated and intensified all along the line.

Perhaps the most promising development is the growth of soil conservation districts. By July 1940, 314 of these districts had been organized; they covered more than 190 million acres in 34 States. With 224 of these districts, which cover approximately 122 million acres, the Department is now actively cooperating, mainly through the Soil Conservation Service, the Extension Service, and the Agricultural Adjustment Administration. In a sense the soil conservation districts are farmer cooperatives established for the specific purpose of controlling erosion. They embody the spirit of community enterprise.

Expected Rate of Progress

Figuring from the present rate of growth in the formation of these local government agencies, and allowing for some possible slacking up, it appears likely that by 1950 soil conservation districts will cover the greater part of the agricultural land most immediately in need of defense. If all these districts are properly organized and administered and if they receive a sufficient amount of help from State and Federal agencies, the forces of conservation may swing into balance with the forces of land disintegration over the country during the next decade. In fact, conservation may even gain the upper hand.

There is no longer any doubt as to the feasibility of controlling erosion. Conservation methods already have stabilized the soil on a sizeable portion of the country's eroding land, much of it severely depleted, and at the same time have helped to bring about a more profitable and better balanced type of agriculture. Now that we know how to control or largely to reduce erosion and how to conserve rainfall in a practical way, the main task is to proceed speedily to assist the thousands of farmers whose lands are still unprotected.